UCA

YAMAHA

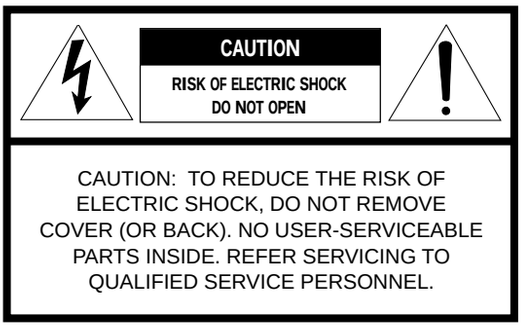
RX-V495

Natural Sound AV Receiver

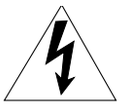
Ampli-Tuner Audio-Video

OWNER'S MANUAL
MODE D'EMPLOI

SAFETY INSTRUCTIONS


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

- Explanation of Graphical Symbols



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert you to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert you to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

1 Read Instructions – All the safety and operating instructions should be read before the unit is operated.

2 Retain Instructions – The safety and operating instructions should be retained for future reference.

3 Heed Warnings – All warnings on the unit and in the operating instructions should be adhered to.

4 Follow Instructions – All operating and other instructions should be followed.

5 Water and Moisture – The unit should not be used near water – for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.

6 Carts and Stands – The unit should be used only with a cart or stand that is recommended by the manufacturer.

6A A unit and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the unit and cart combination to overturn.

7 Wall or Ceiling Mounting – The unit should be mounted to a wall or ceiling only as recommended by the manufacturer.

8 Ventilation – The unit should be situated so that its location or position does not interfere with its proper ventilation. For example, the unit should not be situated on a bed, sofa, rug, or similar surface, that may block the ventilation openings; or placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.

9 Heat – The unit should be situated away from heat sources such as radiators, stoves, or other appliances that produce heat.

10 Power Sources – The unit should be connected to a power supply only of the type described in the operating instructions or as marked on the unit.

11 Power-Cord Protection – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the unit.

12 Cleaning – The unit should be cleaned only as recommended by the manufacturer.

13 Nonuse Periods – The power cord of the unit should be unplugged from the outlet when left unused for a long period of time.

14 Object and Liquid Entry – Care should be taken so that objects do not fall into and liquids are not spilled into the inside of the unit.

15 Damage Requiring Service – The unit should be serviced by qualified service personnel when:
- **A.** The power-supply cord or the plug has been damaged; or
- **B.** Objects have fallen, or liquid has been spilled into the unit; or
- **C.** The unit has been exposed to rain; or
- **D.** The unit does not appear to operate normally or exhibits a marked change in performance; or
- **E.** The unit has been dropped, or the cabinet damaged.

16 Servicing – The user should not attempt to service the unit beyond those means described in the operating instructions. All other servicing should be referred to qualified service personnel.

17 Power Lines – An outdoor antenna should be located away from power lines.

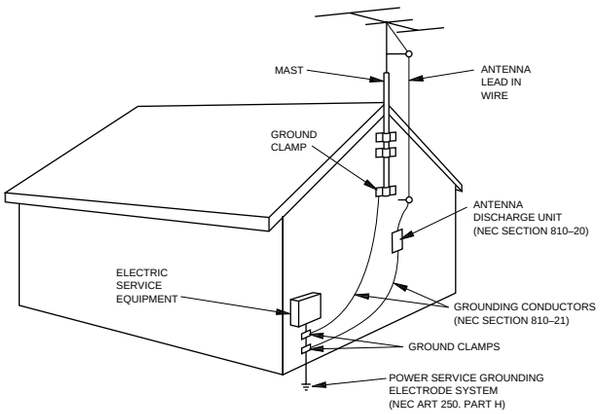
18 Grounding or Polarization – Precautions should be taken so that the grounding or polarization is not defeated.

19 For US customers only:

Outdoor Antenna Grounding – If an outside antenna is connected to this unit, be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

Note to CATV system installer:
This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

EXAMPLE OF ANTENNA GROUNDING


MAST
ANTENNA LEAD IN WIRE
GROUND CLAMP
ANTENNA DISCHARGE UNIT (NEC SECTION 810–20)
ELECTRIC SERVICE EQUIPMENT
GROUNDING CONDUCTORS (NEC SECTION 810–21)
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM (NEC ART 250. PART H)

NEC – NATIONAL ELECTRICAL CODE

FCC INFORMATION (for US customers only)

1. **IMPORTANT NOTICE : DO NOT MODIFY THIS UNIT!** This product, when installed as indicated in the instructions contained in this manual, meets FCC requirements. Modifications not expressly approved by Yamaha may void your authority, granted by the FCC, to use the product.
2. **IMPORTANT :** When connecting this product to accessories and/or another product use only high quality shielded cables. Cable/s supplied with this product MUST be used. Follow all installation instructions. Failure to follow instructions could void your FCC authorization to use this product in the USA.
3. **NOTE :** This product has been tested and found to comply with the requirements listed in FCC Regulations, Part 15 for Class "B" digital devices. Compliance with these requirements provides a reasonable level of assurance that your use of this product in a residential environment will not result in harmful interference with other electronic devices.

   This equipment generates/uses radio frequencies and, if not installed and used according to the instructions found in the users manual, may cause interference harmful to the operation of other electronic devices.

Compliance with FCC regulations does not guarantee that interference will not occur in all installations. If this product is found to be the source of interference, which can be determined by turning the unit "OFF" and "ON", please try to eliminate the problem by using one of the following measures:

Relocate either this product or the device that is being affected by the interference.

Utilize power outlets that are on different branch (circuit breaker or fuse) circuits or install AC line filter/s.

In the case of radio or TV interference, relocate/reorient the antenna. If the antenna lead-in is 300 ohm ribbon lead, change the lead-in to coaxial type cable.

If these corrective measures do not produce satisfactory results, please contact the local retailer authorized to distribute this type of product. If you can not locate the appropriate retailer, please contact Yamaha Electronics Corp., U.S.A. 6660 Orangethorpe Ave, Buena Park, CA 90620.

The above statements apply ONLY to those products distributed by Yamaha Corporation of America or its subsidiaries.

We Want You Listening For A Lifetime

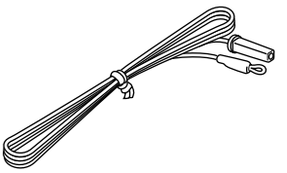
YAMAHA and the Electronic Industries Association's Consumer Electronics Group want you to get the most out of your equipment by playing it at a safe level. One that lets the sound come through loud and clear without annoying blaring or distortion – and, most importantly, without affecting your sensitive hearing.

Since hearing damage from loud sounds is often undetectable until it is too late, YAMAHA and the Electronic Industries Association's Consumer Electronics Group recommend you to avoid prolonged exposure from excessive volume levels.

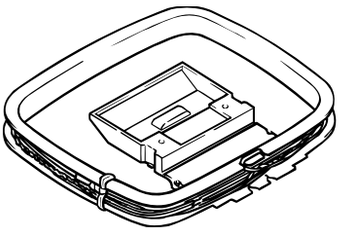
SUPPLIED ACCESSORIES
ACCESSOIRES FOURNIS

- After unpacking, check that the following parts are included.
- Après le déballage, vérifier que les pièces suivantes sont incluses.

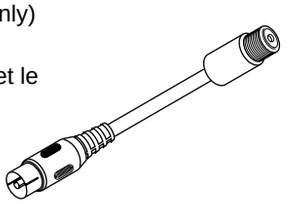
- Indoor FM Antenna
- Antenne FM intérieure



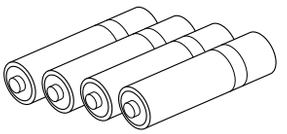
- AM Loop Antenna
- Cadre-antenne AM



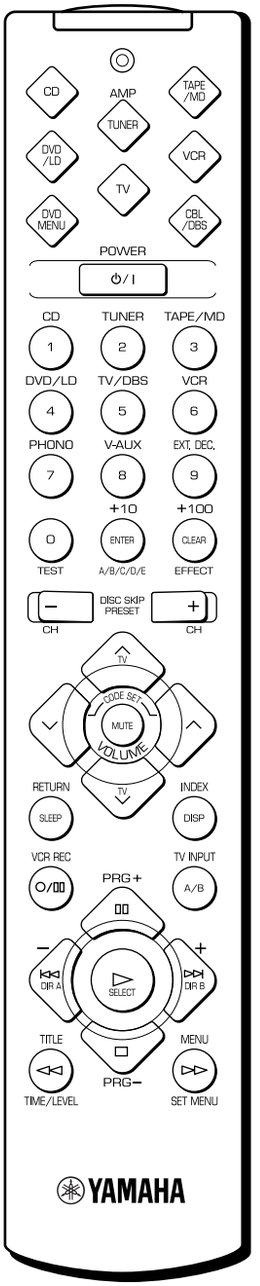
- Antenna adapter
  (U.S.A. and Canada models only)
- Adaptateur d'antenne
  (Modèles pour les Etats-Unis et le Canada seulement)



- Batteries (size AAA, R6, UM-4)
- Piles (taille AAA, R6, UM-4)



- Remote control transmitter
- Télécommande



FEATURES

- **5-Channel Power Amplification**
  Minimum RMS Output Power
  <0.04% THD, 20 Hz – 20 kHz>
  Main: 60 W + 60 W (8 Ω)
  Center: 60 W (8 Ω)
  Rear: 60 W + 60 W (8 Ω)
  <0.07% THD, 1 kHz>
  Main: 70 W + 70 W (8 Ω)
  Center: 70 W (8 Ω)
  Rear: 70 W + 70 W (8 Ω)
- **Digital Sound Field Processor**
- **Dolby Digital Decoder**
- **Dolby Pro Logic Surround Decoder**
- **CINEMA DSP: Theater-like Sound Experience by the Combination of Dolby Surround and YAMAHA DSP Technology**
- **6-Channel External Decoder Input for DTS and other future formats**
- **Automatic Input Balance Control for Dolby Pro Logic Surround**
- **Test Tone Generator for Easier Speaker Balance Adjustment**
- **Speaker Output Mode Changing Capability**
- **40-Station Random Access Preset Tuning**
- **Automatic Preset Tuning**
- **Preset Station Shifting Capability (Preset Editing)**
- **Video Signal Input/Output Capability**
- **SLEEP Timer**
- **Universal Remote Control Transmitter with Preset Manufacturer Codes**

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CAUTION: READ THIS BEFORE OPERATING YOUR UNIT.

1. To assure the finest performance, please read this manual carefully. Keep it in a safe place for future reference.
2. Install this unit in a cool, dry, clean place – away from windows, heat sources, sources of excessive vibration, dust, moisture and cold. Avoid sources of humming (transformers, motors). To prevent fire or electrical shock, do not expose the unit to rain or water.
3. Never open the cabinet. If something drops into the set, contact your dealer.
4. Do not use force on switches, controls or connection wires. When moving the unit, first disconnect the power plug and the wires connected to other equipment. Never pull the wires themselves.
5. The openings on the unit cover assure proper ventilation of the unit. If these openings are obstructed, the temperature inside the unit will rise rapidly. Therefore, avoid placing objects against these openings, and install the unit in a well-ventilated area to prevent fire and damage.

   <Singapore model only>
   Be sure to allow a space of at least 20 cm behind, 20 cm on the both sides and 30 cm above the top panel of the unit to prevent fire and damage.
6. The voltage used must be the same as that specified on this unit. Using this unit with a higher voltage than specified is dangerous and may result in fire or other accidents. YAMAHA will not be held responsible for any damage resulting from use of this unit with a voltage other than specified.
7. Digital signals generated by this unit may interfere with other equipment such as tuners, receivers or TVs. Move this unit farther away from such equipment if interference is observed.
8. Always set the VOLUME control to "∞" before starting the audio source play. Increase the volume gradually to an appropriate level after playback has been started.
9. Do not attempt to clean the unit with chemical solvents; this might damage the finish. Use a clean, dry cloth.
10. Be sure to read the "TROUBLESHOOTING" section regarding common operating errors before concluding that the unit is faulty.
11. When not planning to use this unit for long periods of time (ie., vacation, etc.), disconnect the AC power plug from the wall outlet.
12. To prevent lightning damage, disconnect the AC power plug and disconnect the antenna cable when there is an electrical storm.
13. Grounding or polarization – Precautions should be taken so that the grounding or polarization of an appliance is not defeated.
14. AC outlet
    Do not connect audio equipment to the AC outlet on the rear panel if that equipment requires more power than the outlet is rated to provide.
15. **Voltage Selector (China and General Models only)**
    The voltage selector on the rear panel of this unit must be set for your local main voltage BEFORE plugging into the AC main supply.
    Voltages are 110/120/220/240 V AC, 50/60 Hz.

This unit is not disconnected from the AC power source as long as it is connected to the wall outlet, even if this unit itself is turned off. This state is called the standby mode. In this state, this unit is designed to consume a very small quantity of power.

FREQUENCY STEP switch
(China and General Models only)
Because the interstation frequency spacing differs in different areas, set the FREQUENCY STEP switch (located at the rear) according to the frequency spacing in your area. Before setting this switch, disconnect the AC power plug of this unit from the AC outlet.

IMPORTANT
Please record the serial number of this unit in the space below.

MODEL:

Serial No.:

The serial number is located on the rear of the unit. Retain this Owner's Manual in a safe place for future reference.

WARNING
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

FOR CANADIAN CUSTOMERS

To prevent electric shock, match wide blade of plug to wide slot and fully insert.

This Class B digital apparatus complies with Canadian ICES-003.

FEATURES OF SOUND EFFECTS

Introduction

Welcome to the exciting world of digital home entertainment. This unit is one of the most complete and advanced AV receivers available. Some of the more advanced features may not be familiar to you, but they are easy to use. State-of-the-art technologies such as Dolby Digital and Digital Theater Systems (DTS) may be new to your home, but you have probably experienced the amazing realism they bring to feature films in theaters around the world.

To make the listening experience even more enjoyable, this unit includes a number of exclusive, digitally created listening environments known as digital sound fields. Choosing a sound field program is like transporting yourself to such venues as an outdoor arena, a European church, or a cozy jazz club. Take some time now to read more about these features and enjoy the new experiences this unit brings to your home theater.

Digital Sound Field Processing

What is it that makes live music so good? Today's advanced sound reproduction technology lets you get extremely close to the sound of a live performance, but the chances are that you'll still notice something missing — the acoustic environment of the live concert hall. Extensive research into the exact nature of the sonic reflections that create the ambience of a large hall has made it possible for YAMAHA engineers to bring you this same sound to your listening room, so you'll feel all the sound of a live concert.

Furthermore, our technicians, armed with sophisticated measuring equipment, have even made it possible to capture the acoustics of a variety of actual concert halls, theaters, etc. from around the world, to allow you to accurately re-create any one of these live performance environments, all in your own home.

Dolby Pro Logic Surround

Dolby Pro Logic Surround has been used in movie theaters since the mid-seventies. It has also been available in home entertainment systems since the late eighties and continues to be a popular format for home theater systems. It uses four discrete channels and five speakers to reproduce realistic and dynamic sound effects: two main channels (left and right), a center channel for dialog, and a rear channel for special sound effects. The rear channel reproduces sound within a narrow frequency range.

Most video tapes and laser discs include Dolby Pro Logic Surround encoding, as do many TV and cable broadcasts. The Dolby Pro Logic Surround decoder built into this unit employs a digital signal processing system that stabilizes each channel for even more accurate sound positioning than is available with standard analog processors.

Dolby Digital

The built-in Dolby Digital decoder leads you into a totally new sound experience.

Dolby Digital is a new generation of multi-channel digital audio technology, or the newest spatial sound processing format developed for 35 mm-film movies by employing a new kind of low bit-rate audio coding.

Dolby Digital is a digital surround sound system that provides completely independent multi-channel audio to listeners. In multi-channel form, Dolby Digital provides 5 full-range channels in what is sometimes referred to as a "3/2" configuration: three front channels (left, center and right), plus two surround channels. A sixth bass-only effect channel is also provided for output of LFE (low frequency effect), or low bass effects that are independent of other channels. This channel is counted as 0.1, thus giving rise to the term 5.1 channels in total.

Compared to Dolby Pro Logic, which is referred to a "3/1" system (left front, center, right front and just one surround channel), Dolby Digital features two surround channels, called stereo or split surrounds, each offering the same full-range fidelity as the three front channels.

Sound of wide dynamic range reproduced by the 5 full-range channels provides listeners with excitement that has never been experienced before. Precise sound orientation by discrete digital sound processing expands the realism that the original movie possesses.

LD and DVD are home audio/video program source that could benefit from Dolby Digital. In the near future, Dolby Digital will also be applied to DBS, CATV and HDTV. The ongoing release of Dolby Stereo Digital theatrical films now underway will provide an immediate source of Dolby Digital encoded video software.

Manufactured under license from Dolby Laboratories Licensing Corporation. “DOLBY”, “PRO LOGIC”, and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation. Copyright 1992 Dolby Laboratories, Inc. All rights reserved.

The following original functions make the surround-sound effect of Dolby Digital become the most suitable for your audio system and the listening conditions.

CINEMA DSP: Dolby Surround + DSP

The Dolby Surround sound system shows its full ability in a large movie theater, because movie sounds are originally designed to be reproduced in a large movie theater using many speakers. It is difficult to create a sound environment similar to that of a movie theater in your listening room, because the room size, materials of inside walls, the number of speakers, etc. of your listening room are very different from those of a movie theater.

YAMAHA DSP technology made it possible to present you with nearly the same sound experience as that of a large movie theater in your listening room by compensating for the lack of presence and dynamics in your listening room with its original digital sound fields combined with the Dolby Surround sound system.

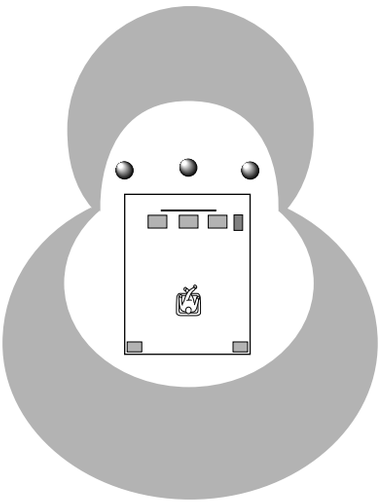
CINEMA DSP

The YAMAHA “CINEMA DSP” logo indicates those programs that are created by the combination of Dolby Surround and YAMAHA DSP technology.

Dolby Pro Logic + 2 Digital Sound Fields

Digital sound fields are created on the presence side and the rear surround side of the Dolby Pro Logic Surround-decoded sound field, respectively. They create a wide acoustic environment and emphasize the surround effect in the room, letting you feel as much presence as if you are watching a movie in a popular Dolby Stereo theater.

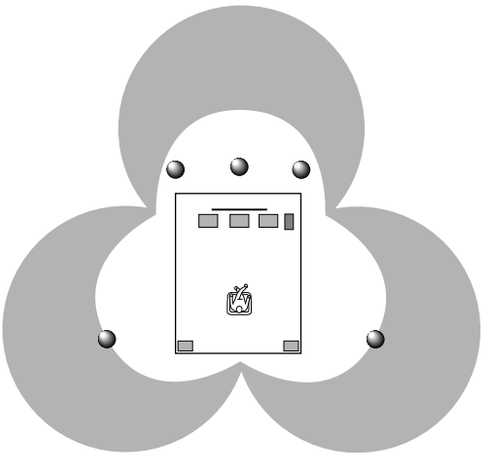
This combination is available when the **DOLBY PRO LOGIC ENHANCED/DOLBY DIGITAL ENHANCED**, **70 mm MOVIE THEATER/DIGITAL MOVIE THEATER** or **TV SPORTS** sound field program is selected, and the input signal of source is analog, PCM audio or encoded with Dolby Digital sound in 2-channel.



Dolby Digital + 3 Digital Sound Fields

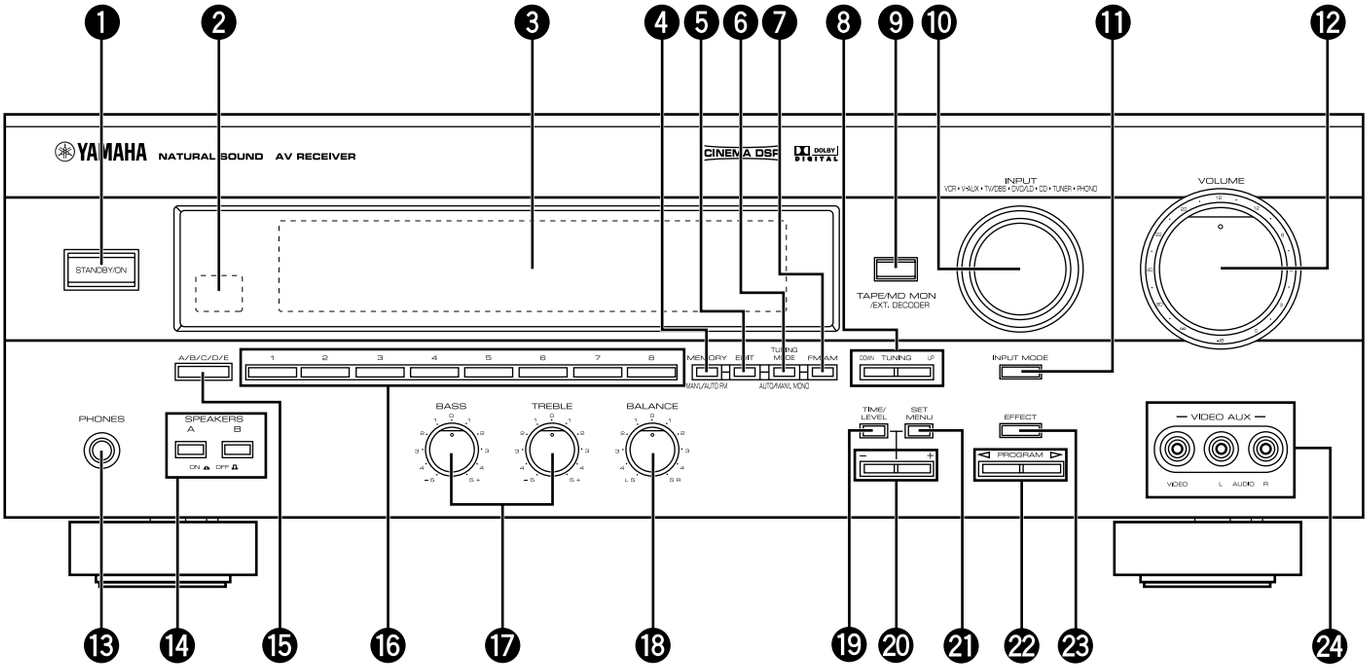
Digital sound fields are created on the presence side and the independent left and right surround sides of the Dolby Digital-decoded sound field, respectively. They create a wide acoustic environment and strong surround effect in the room without losing high-channel separation. With the wide dynamic range of Dolby Digital sound, this sound field combination lets you feel as if you are watching a movie in the newest Dolby Stereo Digital theater. This will be the most ideal home theater sound at the present time.

This combination is available when the **DOLBY PRO LOGIC ENHANCED/DOLBY DIGITAL ENHANCED**, **70 mm MOVIE THEATER/DIGITAL MOVIE THEATER** or **TV SPORTS** sound field program is selected, and the input signal of source is encoded with Dolby Digital sound (except in 2-channel).



CONTROLS AND THEIR FUNCTIONS

FRONT PANEL



❶ STANDBY/ON
Press this switch to turn on the power to this unit. Press it again to set this unit to the standby mode.

> Standby mode
> In this state, this unit consumes a very small quantity of power to receive infrared-signals from the remote control transmitter.

❷ Remote control sensor
This receives signals from the remote control transmitter.

❸ Display
This shows various information. (Refer to page 11 for details.)

❹ MEMORY (MAN'L/AUTO FM)
Press this button to store the broadcasting stations.
When this button is pressed and held for more than three seconds, the automatic preset tuning begins.

❺ EDIT
This button is used to exchange the assignment of two preset stations with each other.

❻ TUNING MODE (AUTO/MAN'L MONO)
Press this button to switch the tuning mode to automatic or manual. To select the automatic tuning mode, press this button so that the "AUTO TUNING" indicator lights up on the display. To select the manual tuning mode, press this button so that the "AUTO TUNING" indicator goes off.

❼ FM/AM
Press this button to switch the reception band to FM or AM.

❽ TUNING UP/DOWN
This button is used for tuning. Press the UP side to tune in to higher frequencies, and press the DOWN side to tune in to lower frequencies.

❾ TAPE/MD MON / EXT. DECODER
Press this button to play a tape or an MD. The "TAPE/MD MON" indicator lights up on the display.
When you press the button next, the "TAPE/MD MON" indicator goes off, "EXT. DECDR" appears on the display and you can play the signal connected to the **EXTERNAL DECODER INPUT** terminals.

❿ INPUT
Turn this selector to select the program source (VCR, VIDEO AUX, TV/DBS, DVD/LD, CD, TUNER, PHONO) to listen to or watch.
The name of the selected program source appears on the display.

⓫ INPUT MODE
This button switches the DVD/LD and TV/DBS input signal mode (AUTO/ANALOG).

⓬ VOLUME
This control is used to raise or lower the volume level.

⓭ PHONES jack
When you use headphones, connect the headphones to the **PHONES** jack. You can listen to the sound to be output from the main speakers through the headphones.
When using headphones only, set both **SPEAKERS A** and **B** to the OFF position and switch off the digital sound field processor (so that no DSP program name appears on the display) by pressing **EFFECT**.

⓮ SPEAKERS
Set **A** or **B** (or both **A** and **B**) to the ON position for the main speaker system (connected to this unit) that you want to use.
Set the button(s) for the main speaker system you don't want to use to the OFF position.

⓯ A/B/C/D/E
Press this button to select one of a group (A to E) of preset stations.

⓰ Preset station number selector
Each of these buttons selects a preset station number (1 to 8).

⓱ Tone controls
These controls are only effective for the sound from the main speakers.
BASS
Use this control to increase or decrease the low-frequency response. The "0" position produces flat response.
TREBLE
Use this control to increase or decrease the high-frequency response. The "0" position produces flat response.

⓲ BALANCE
This control is only effective for the sound from the main speakers.
Turn the control to adjust the balance of the output volume to the left and right speakers to compensate for sound imbalance caused by the speaker location or listening room conditions.

⓳ TIME/LEVEL
Press this button to select the item in the TIME/LEVEL mode.

⓴ +/–
These buttons are used to adjust the settings of the SET MENU mode and the TIME/LEVEL mode. In the TIME/LEVEL mode, press **+** to increase the delay time or speaker output level. Press **–** to decrease the delay time or speaker output level.

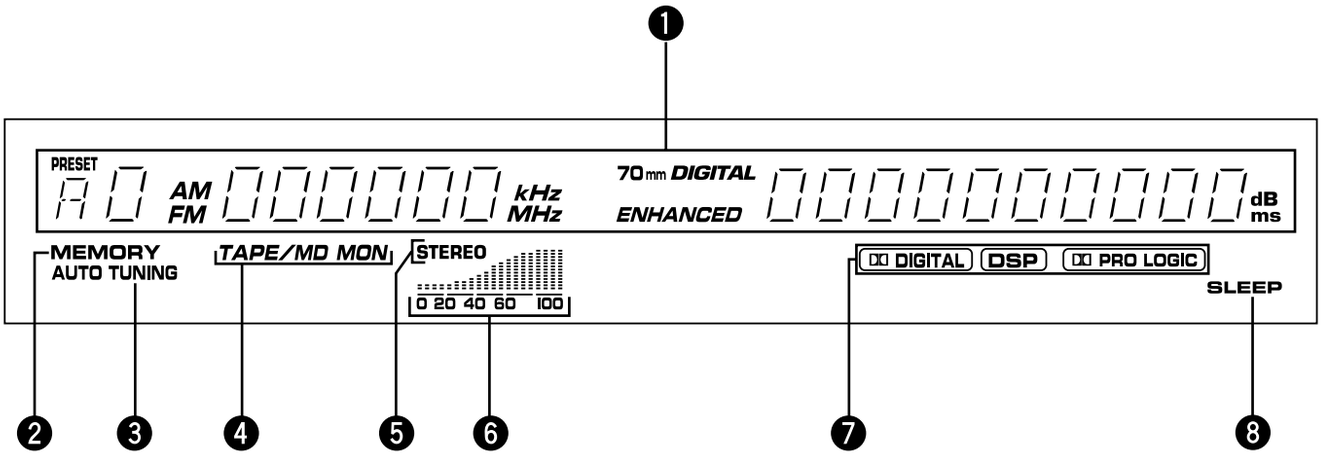
㉑ SET MENU
Press this button to select functions in the SET MENU mode.

㉒ PROGRAM selector
Press ◅ or ▻ to select the DSP program.
The name of the selected program appears on the display.

㉓ EFFECT
This button switches on and off the output from the center and rear speakers so that the sound becomes the normal 2-channel.
* Even if the output from the center and rear speakers is off, when the Dolby Digital is decoded, the signals on all channels are distributed to the main channels and output from the main speakers.

㉔ VIDEO AUX terminals
Connect an auxiliary video or audio input source unit such as a camcorder to these terminals. The source connected to these terminals can be selected by **INPUT**.

DISPLAY PANEL



1 Multi-information display
This displays various information, for example the station frequency, preset station number and name of the selected program source.

2 MEMORY indicator
When **MEMORY** is pressed, this indicator flashes for about five seconds. During this period, the displayed station can be stored in the memory.

3 AUTO TUNING indicator
This lights up when the unit is in the automatic tuning mode.

4 TAPE/MD MON indicator
This lights up when the tape deck (or MD recorder, etc.) is selected as the program source by pressing **TAPE/MD MON / EXT. DECODER** on the front panel or **TAPE/MD** on the remote control transmitter.

5 STEREO indicator
This lights up when an FM stereo broadcast with sufficient signal strength is being received.

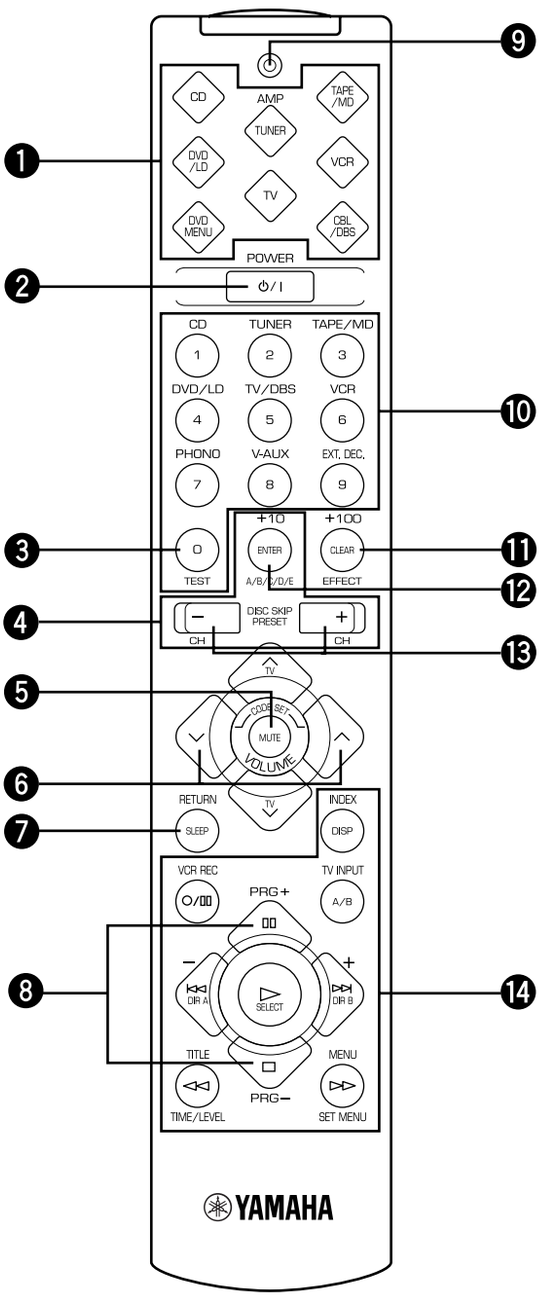
6 Signal-level meter
This indicates the signal level of the station being received. If multipath interference is detected, the indication decreases.

7 DIGITAL, DSP and PRO LOGIC indicators
"DIGITAL" lights up when the built-in Dolby Digital decoder is on and the signal of the selected source encoded in Dolby Digital sound is not in 2-channel. "DSP" lights up when the built-in digital sound field processor is on, and "PRO LOGIC" lights up when the built-in Dolby Pro Logic Surround decoder is on. Depending on the selected DSP program, both "DIGITAL" and "DSP", or both "DSP" and "PRO LOGIC" will light up.

8 SLEEP indicator
This lights up while the built-in SLEEP timer is functioning.

REMOTE CONTROL TRANSMITTER

See “REMOTE CONTROL TRANSMITTER” on page 46 for full details.



❶ Component selector

Press the button for the component you want to control with the remote control transmitter. (The proper code must be set for your component. See “SETUP CODES” on page 53.)
When the component selector has been pressed, the remote control transmitter is set to operate that component.

❷ POWER

When you have preset the code for a YAMAHA component, this button switches between the power on and standby mode. When you have preset the code for another manufacturer’s component, this button turns on that component if it has a remote control transmitter with a power button.

* It only functions when **AMP<TUNER>**, **TAPE/MD**, **CD**, **DVD/LD** or **DVD MENU** on the component selector has been pressed.

❸ TEST

Press this button to output the test tone for each speaker.

* It only functions when **AMP<TUNER>** on the component selector has been pressed.

❹ A/B/C/D/E, PRESET +/–

These buttons are used to select a preset station.

* They only function when **AMP<TUNER>** on the component selector has been pressed.

❺ MUTE

Press this button to mute the sound.

❻ VOLUME

These buttons are used to adjust the volume.
∧: Turns up the volume.
∨: Turns down the volume.

❼ SLEEP

This button is used to set the SLEEP timer.

❽ PRG+, PRG–

These buttons are used to select a DSP program.

* They only function when **AMP<TUNER>** on the component selector has been pressed.

❾ Indicator

This flashes in red when a button on the remote control transmitter is pressed. When it flashes rapidly several times, press the selected button again.

❿ Input selector (① to ⑨)[1]/Numeric buttons[2]

1) These buttons are used to select the program source to be played.
   * They only function when **AMP<TUNER>**, **TAPE/MD**, **CD** or **DVD/LD** on the component selector has been pressed.
2) These buttons are used to select the menu or channel.
   * They only function when **DVD MENU**, **VCR**, **CBL/DBS** or **TV** on the component selector has been pressed.

⓫ EFFECT[1)]/CLEAR[2)]/+100[3)]

1) This button is used to switch the DSP program on or off.
   * It only functions when **AMP<TUNER>**, **TAPE/MD**, **CD**, **DVD/LD**, **VCR** or **TV** on the component selector has been pressed.
2) This button is used to clear the settings.
   * It only functions when **DVD MENU** on the component selector has been pressed.
3) This button is used to select the channel.
   * It only functions when **CBL/DBS** on the component selector has been pressed.

⓬ ENTER[1)]/+10[2)]

1) This button is used to enter the channel.
   * It only functions when **VCR**, **CBL/DBS** or **TV** on the component selector has been pressed.
2) This button is used to select the menu.
   * It only functions when **DVD MENU** on the component selector has been pressed.

⓭ DISC SKIP +/–[1)]/CH +/–[2)]

1) These buttons are used to skip to the next or previous disc.
   * They only function when **CD**, **DVD/LD** or **DVD MENU** on the component selector has been pressed.
2) These buttons are used to select the next or previous channel.
   * They only function when **VCR**, **CBL/DBS** or **TV** on the component selector has been pressed.

⓮ Operation buttons[1)]/Setup buttons[2)]

1) These buttons function as play, stop, skip, etc. for operating the component.
   * They only function when **TAPE/MD**, **CD**, **DVD/LD**, **VCR** or **TV** on the component selector has been pressed.
2) These buttons are for adjusting various settings.
   * They only function when **AMP<TUNER>**, **DVD MENU** or **CBL/DBS** on the component selector has been pressed.

SPEAKER SETUP

SPEAKERS TO BE USED

This unit is designed to provide the best sound-field quality with a 5-speaker configuration, using main speakers, rear speakers and a center speaker.
The main speakers are used for the main source sound plus the effect sounds. They will probably be the speakers from your present stereo system. The rear speakers are used for the effect and surround sounds, and the center speaker is for the center sounds (dialog, vocals, etc.). If for some reason it is not practical to use a center speaker, you can do without it. Best results, however, are obtained with the full system.

The main speakers should be high-performance models and have enough power-handling capacity to accept the maximum output of your audio system.
The other speakers do not have to be equal to the main speakers. For precise sound localization, however, it is ideal to use high-performance models that can reproduce sounds over the full-range for the center speaker and the rear speakers.

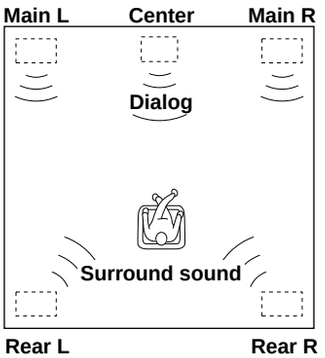
Use of a subwoofer expands your sound field
It is also possible to further expand your system with the addition of a subwoofer and amplifier. The use of a subwoofer is effective not only for reinforcing bass frequencies from any or all channels, but also for reproducing the LFE (low frequency effect) sound with high fidelity when playing back a source that is Dolby Digital-decoded. You may wish to choose the convenience of a YAMAHA Active Servo Processing Subwoofer System, which has its own built-in power amplifier.

SPEAKER CONFIGURATION

5-Speaker Configuration

This configuration is the most effective and recommended one. When playing back a source using the DSP program, **DOLBY PRO LOGIC/DOLBY DIGITAL**, **DOLBY PRO LOGIC ENHANCED/DOLBY DIGITAL ENHANCED**, **70 mm MOVIE THEATER/DIGITAL MOVIE THEATER**, **MONO MOVIE** or **TV SPORTS**, or when playing back a source which contains center-channel signals (dialog, vocals, etc.) using any DSP program that is Dolby Digital-decoded, conversations will be output from the center speaker and the ambience will be excellent.

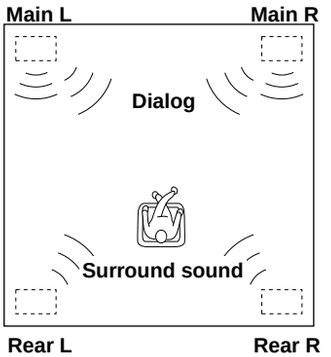
Note: Set the CNTR (CENTER SPEAKER) mode to the "**LARGE**" or "**SMALL**" position. (See page 23 for details.)



4-Speaker Configuration

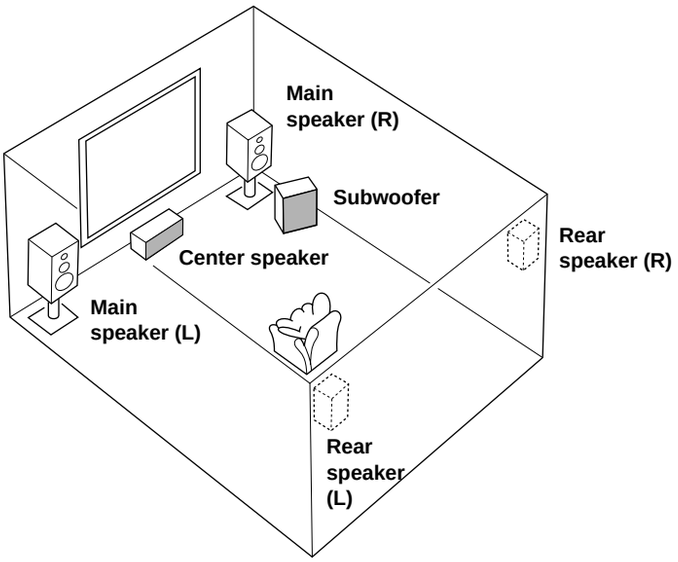
The center speaker is not used in this configuration. When playing back a source using the DSP program, **DOLBY PRO LOGIC/DOLBY DIGITAL**, **DOLBY PRO LOGIC ENHANCED/DOLBY DIGITAL ENHANCED**, **70 mm MOVIE THEATER/DIGITAL MOVIE THEATER**, **MONO MOVIE** or **TV SPORTS**, or when playing back a source which contains center-channel signals (dialog, vocals, etc.) using any DSP program that is Dolby Digital-decoded, the center sound is output from the left and the right main speakers. However, the sound effect of other programs will be the same as that of the 5-speaker configuration.

Note: Be sure to set the CNTR (CENTER SPEAKER) mode to the "**NONE**" position. (See page 23 for details.)



SPEAKER PLACEMENT

Refer to the following diagram when you place the speakers.



Main: The position of your present stereo speaker system.

Rear: Behind your listening position, facing slightly inward. Nearly 1.8 m (approx. 6 feet) up from the floor.

Center: Precisely between the main speakers. (To avoid interference with TV sets, use a magnetically shielded speaker.)

Subwoofer: The position of the subwoofer is not as critical, because low bass tones are not highly directional.

CONNECTIONS

Never plug in this unit and other components until all connections have been completed.

CONNECTIONS WITH OTHER COMPONENTS

When making connections between this unit and other components, be sure all connections are made correctly, that is to say **L** (left) to **L**, **R** (right) to **R**, "**+**" to "**+**" and "**–**" to "**–**". Also, refer to the owner's manual for each component to be connected to this unit.

* If you have YAMAHA components numbered as 1, 3, 4, etc. on the rear panel, connections can be made easily by making sure to connect the output (or input) terminals of each component to the same-numbered terminals of this unit.

✱1 SWITCHED AC OUTLET(S)

U.S.A., Canada, Singapore, China and General models
..... 2 SWITCHED OUTLETS

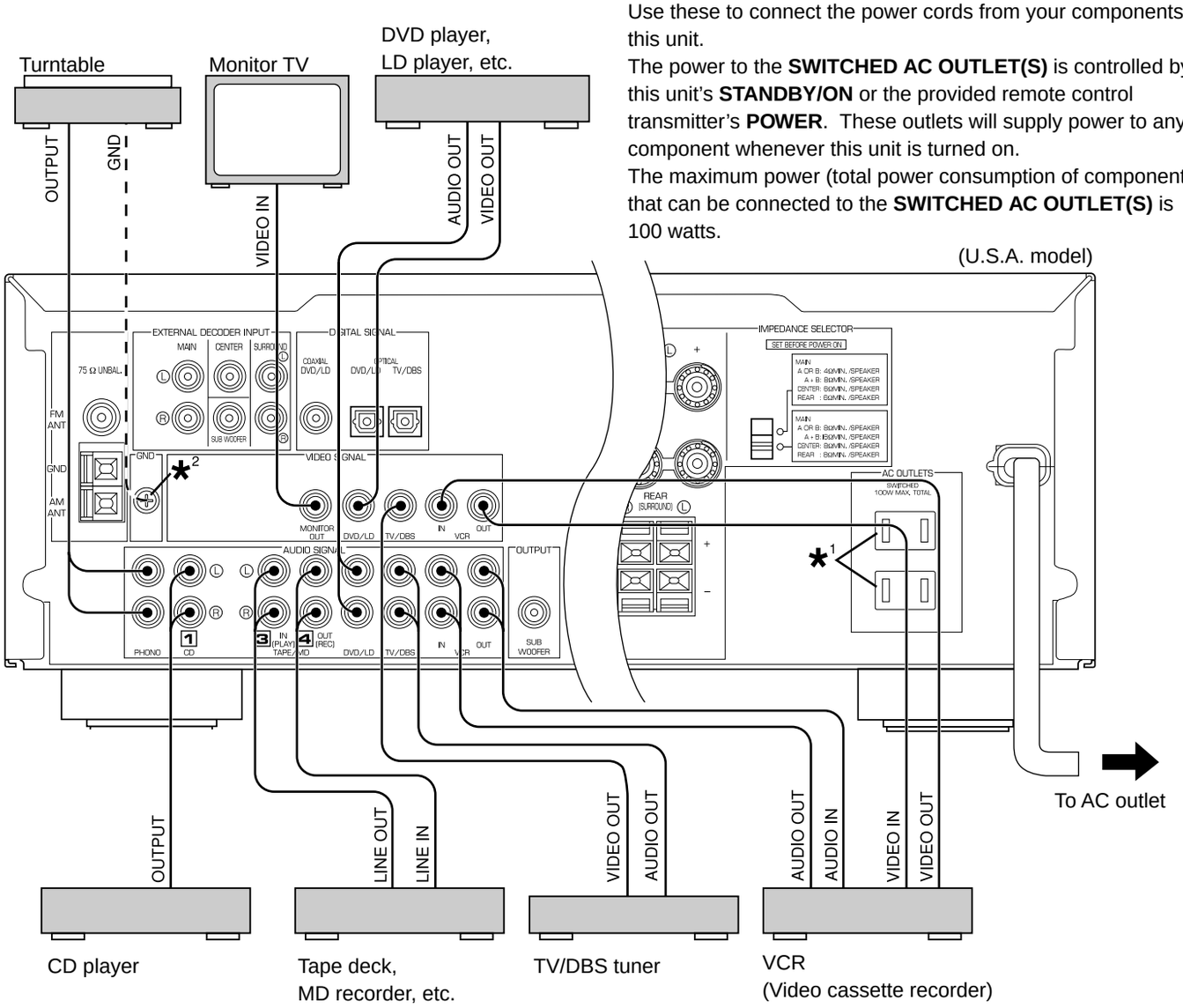
Australia model ..... 1 SWITCHED OUTLET

Use these to connect the power cords from your components to this unit.

The power to the **SWITCHED AC OUTLET(S)** is controlled by this unit's **STANDBY/ON** or the provided remote control transmitter's **POWER**. These outlets will supply power to any component whenever this unit is turned on.

The maximum power (total power consumption of components) that can be connected to the **SWITCHED AC OUTLET(S)** is 100 watts.

(U.S.A. model)

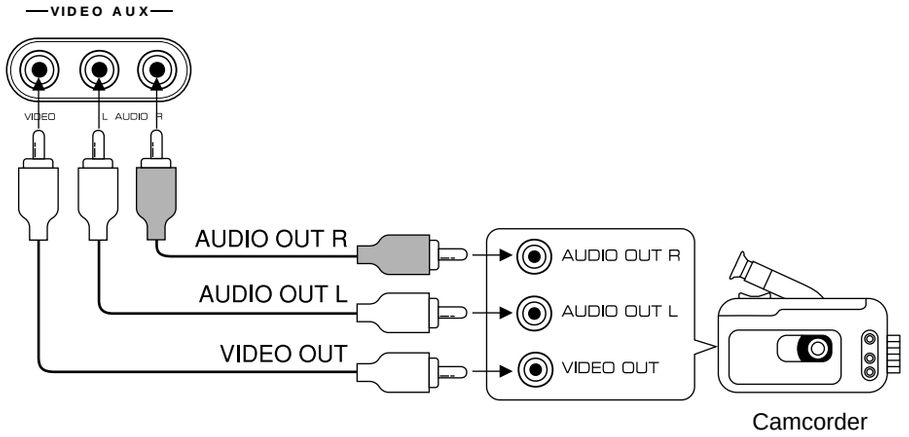


✱2 GND terminal (for turntable use)

Connecting the ground (earth) wire of the turntable to the **GND** terminal will normally minimize hum, but in some cases, better results may be obtained with the ground wire disconnected.

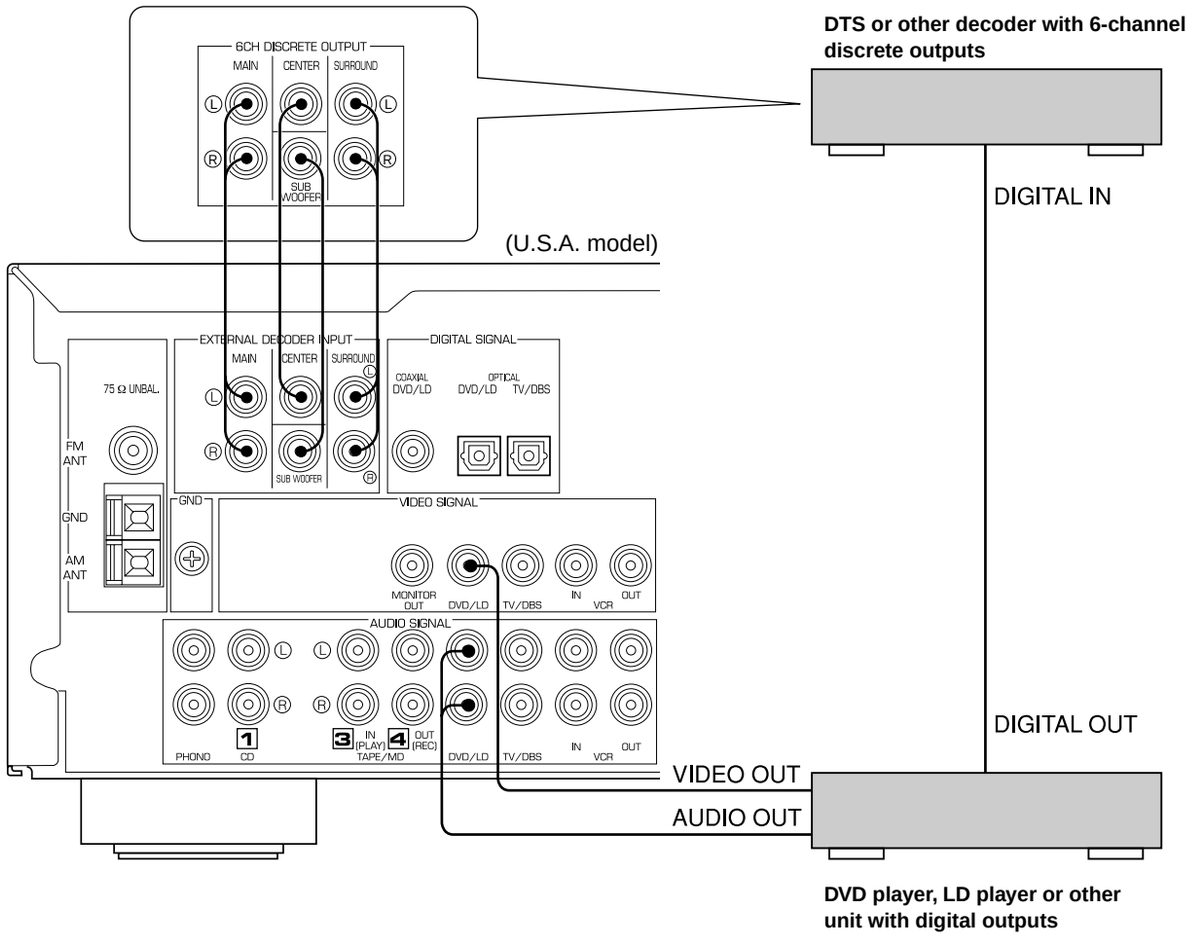
CONNECTING TO VIDEO AUX TERMINALS (ON THE FRONT PANEL)

These terminals are used to connect any video input source, such as a camcorder, to this unit.



CONNECTING TO AN EXTERNAL DECODER

When using the DTS or other decoder with 6-channel discrete outputs, connect the **6CH DISCRETE OUTPUT** terminals of the decoder to the **EXTERNAL DECODER INPUT** terminals of this unit.



CONNECTING TO DIGITAL (COAXIAL AND/OR OPTICAL) TERMINALS

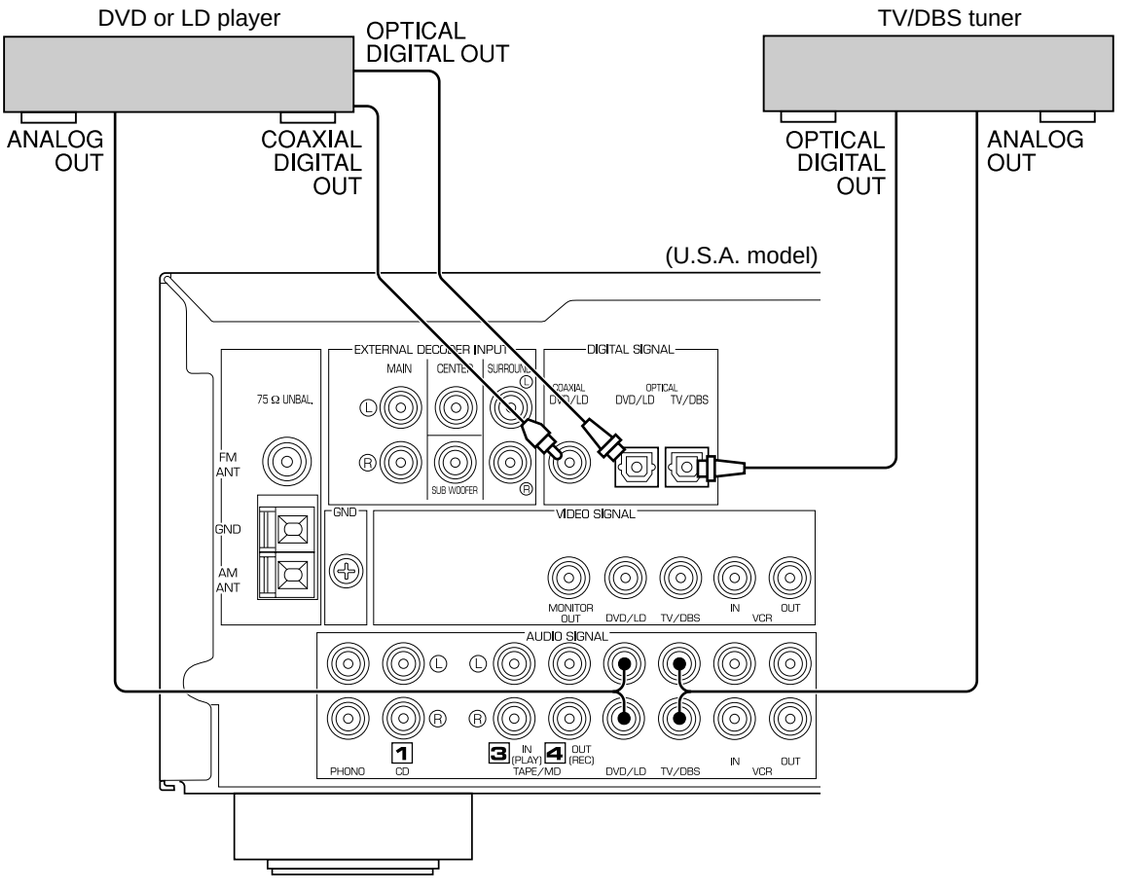
If your DVD (LD) player, TV/DBS tuner, etc. are equipped with coaxial or optical digital audio signal output terminals, they can be connected to this unit's **COAXIAL** and/or **OPTICAL** digital signal input terminals.

To make a connection between optical digital audio signal terminals, remove the cover from each terminal, and then connect them by using a commercially available optical fiber cable that conforms to EIAJ standards. Other cables might not function correctly.

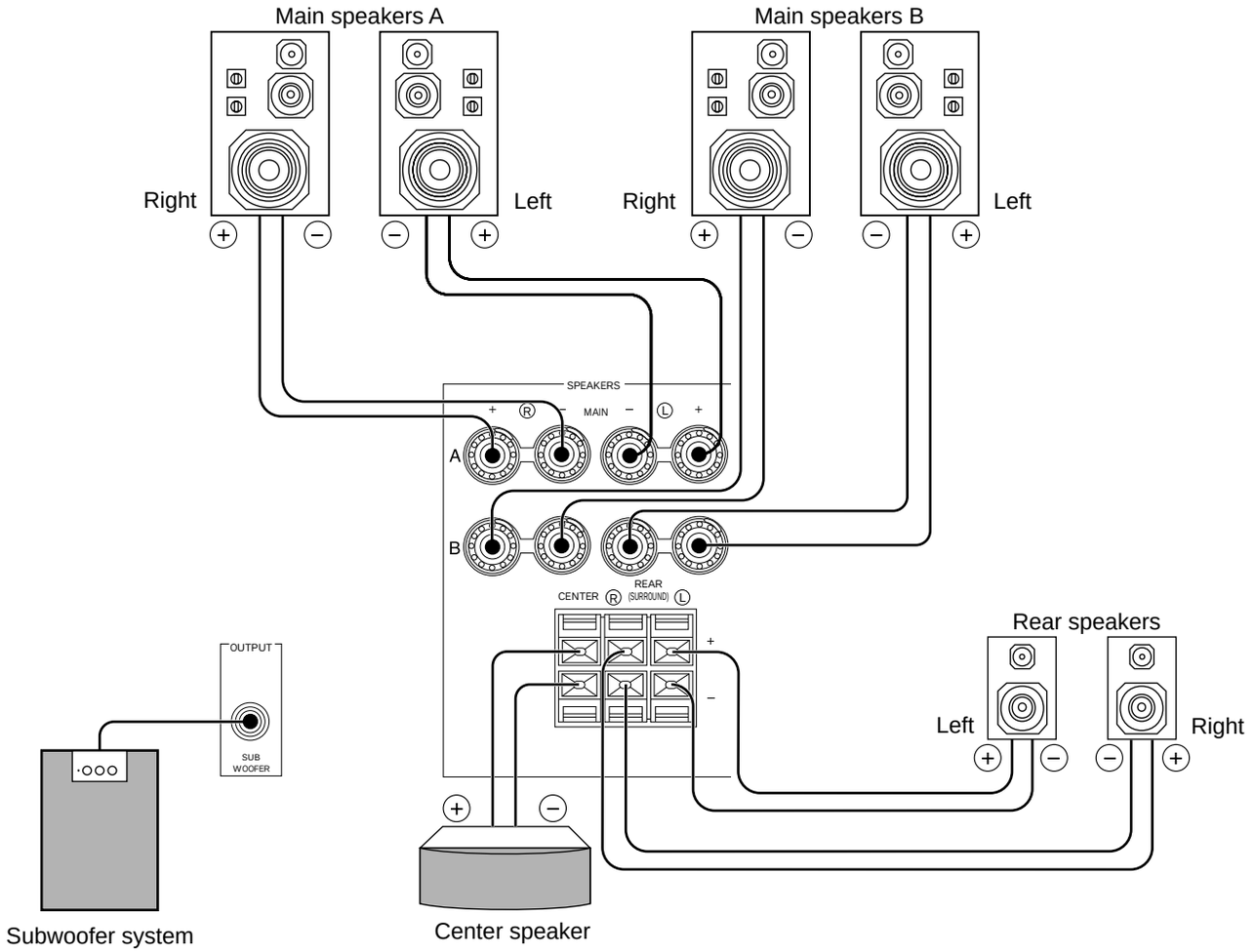
Even if you connect an audio/video unit to the **COAXIAL** (or **OPTICAL**) terminal of this unit, you must keep the unit connected with the same named analog audio signal terminals of this unit, because a digital signal cannot be recorded by a tape deck, MD recorder or VCR connected to this unit. You can easily switch the selection of input signals between "digital" and "analog". (See page 30 for details.)

Notes

- When connecting an audio/video unit to both the digital and analog terminals of this unit, make sure to connect between terminals of the same name.
- Be sure to attach the covers when the **OPTICAL** terminals are not being used in order to protect them from dust.
- The input signal from the DVD/LD input terminals is selected in the following order of priority with the input mode set to the AUTO position:
  1 **COAXIAL** terminal
  2 **OPTICAL** terminal
  3 Analog terminal
- All digital audio signal input terminals are applicable to sampling frequencies of 32 kHz, 44.1 kHz and 48 kHz.
- If your LD player has Dolby Digital RF signal output terminal and not digital signal output, use the RF demodulator (separate purchase).



CONNECTING SPEAKERS



Note
Use speakers with the specified impedance shown on the rear panel of this unit.

Main speaker connections

One or two speaker systems can be connected to this unit. If you use only one speaker system, connect it to either of the **SPEAKERS A** or **B** terminals.

Rear speaker connections

A rear speaker system can be connected to this unit. Place them to the rear of your listening position.

Center speaker connection

A center speaker can be connected to this unit. Place it on or under the TV.

Subwoofer connection

You may wish to add a subwoofer to reinforce low frequencies or to output low bass sound from the subwoofer channel.
If you have a subwoofer with built-in amplifier, including the YAMAHA Active Servo Processing Subwoofer System, connect the **SUBWOOFER OUTPUT** terminal of this unit to the input terminal of the subwoofer system.
If you have a separate amplifier and subwoofer, connect the **SUBWOOFER OUTPUT** terminal of this unit to the input terminal of the subwoofer amplifier, and then connect the speaker terminals of the subwoofer amplifier to the subwoofer.
When the input signals to this unit are for normal 2-channel stereo, this terminal outputs only frequencies below 90 Hz from the main and center channels. When discrete signals are input to this unit and are selected as the input source, this terminal outputs signals from the subwoofer channel.

Note: The output level of signals from this terminal is adjusted by **VOLUME** on the front panel or **VOLUME** (∧ ∨) on the remote control transmitter.

How to connect

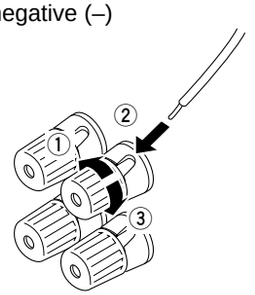
Connect the **SPEAKERS** terminals to your speakers with wire of the proper gauge, cut as short as possible. If the connections are faulty, no sound will be heard from the speakers. Make sure that the polarity of the speaker wires is correct, that is the + and – markings are observed. If these wires are reversed, the sound will be unnatural and lack bass.

Caution

Do not let the bare speaker wires touch each other and do not let them touch any metal part of this unit. This could damage the unit and/or speakers.

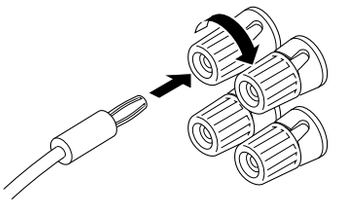
Connecting to the MAIN SPEAKERS terminals

Red: positive (+)
Black: negative (–)



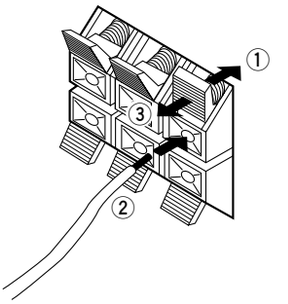
① Unscrew the knob.
② Remove approx. 5 mm (1/4”) of insulation from each of the speaker wires and insert the bare wire into the terminal.
③ Tighten the knob to secure the wire.

Banana plug connections are also possible (except for the Singapore model). Simply insert the banana plug connector into the corresponding terminal.



Connecting to the REAR and CENTER SPEAKERS terminals

Red: positive (+)
Black: negative (–)



① Press the tab.
② Remove approx. 5 mm (1/4”) of insulation from each of the speaker wires and insert the bare wire into the terminal.
③ Release the tab to secure the wire.

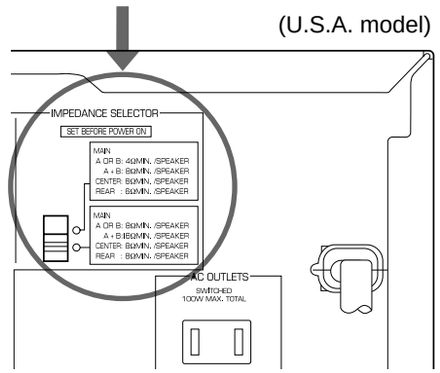
IMPEDANCE SELECTOR SWITCH

WARNING
Do not change the **IMPEDANCE SELECTOR** switch setting while the power to this unit is on, otherwise this unit may be damaged.

If this unit fails to turn on when the STANDBY/ON switch is pressed, the **IMPEDANCE SELECTOR** switch may not be fully set to either end. If so, set the switch to either end fully when this unit is in the standby mode.

IMPEDANCE SELECTOR

(U.S.A. model)



Select the position whose requirements your speaker system meets.

(Upper position)

Main: If you use one pair of main speakers, the impedance of each speaker must be 4 Ω or higher.
If you use two pairs of main speakers, the impedance of each speaker must be 8 Ω or higher.

Center: The impedance of the speaker must be 6 Ω or higher.

Rear: The impedance of each speaker must be 6 Ω or higher.

(Lower position)

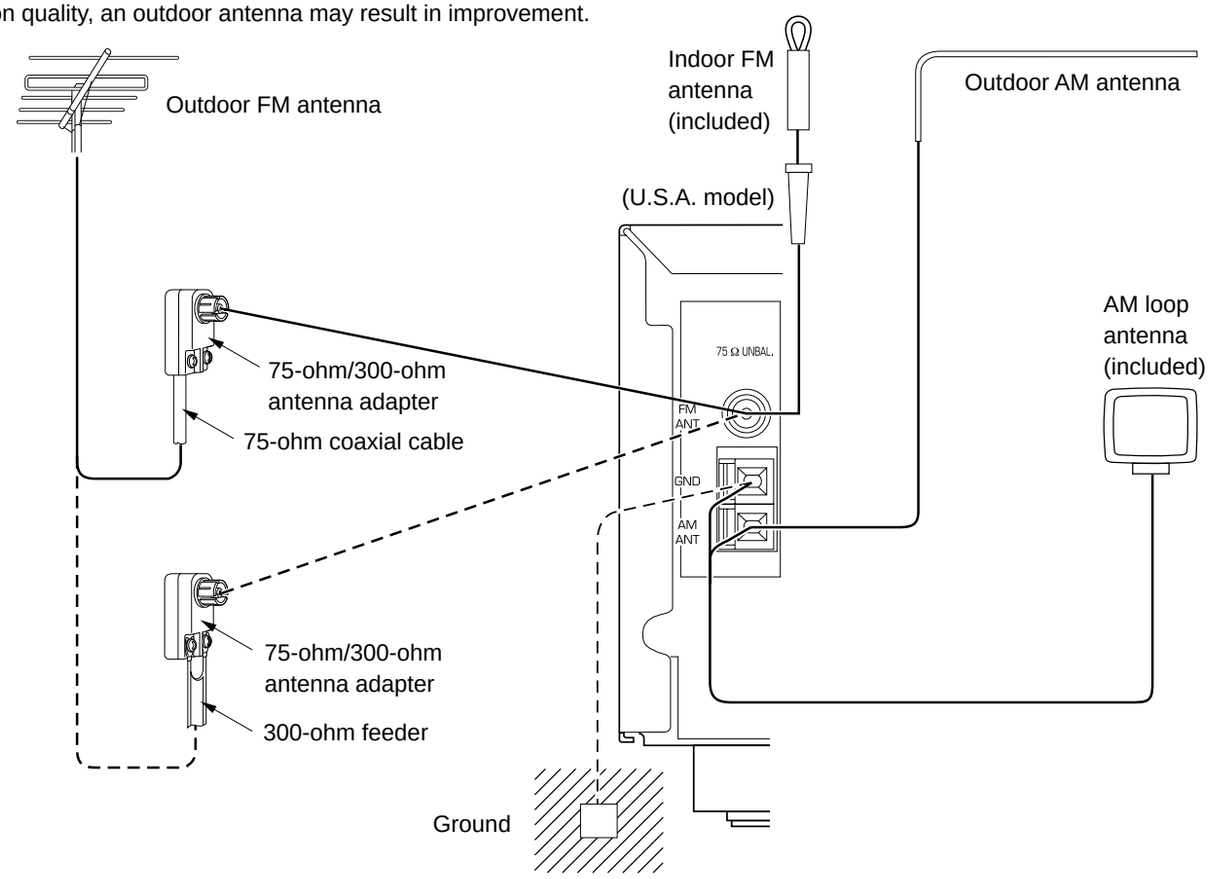
Main: If you use one pair of main speakers, the impedance of each speaker must be 8 Ω or higher.
If you use two pairs of main speakers, the impedance of each speaker must be 16 Ω or higher.
<Canada model only>
The impedance of each speaker must be 8 Ω or higher.

Center: The impedance of the speaker must be 8 Ω or higher.

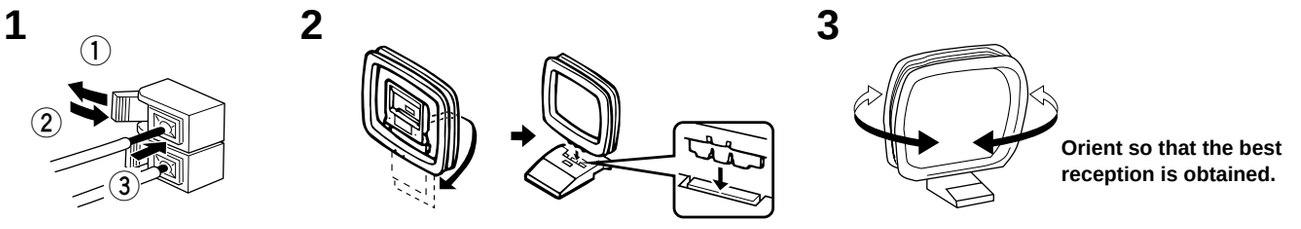
Rear: The impedance of each speaker must be 8 Ω or higher.

ANTENNA CONNECTIONS

Each antenna should be correctly connected to the designated terminals, referring to the following diagram.
Both AM and FM indoor antennas are included with this unit. In general, these antennas will probably provide sufficient signal strength. Nevertheless, a properly installed outdoor antenna will give clearer reception than an indoor one. If you experience poor reception quality, an outdoor antenna may result in improvement.



Connecting the AM loop antenna



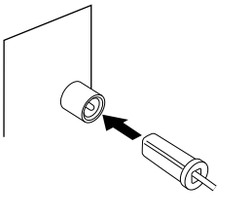
* The AM loop antenna should be placed away from this unit. The antenna may be hung on a wall.
* The AM loop antenna always should be connected, even if an outdoor AM antenna is connected to this unit.

GND TERMINAL

For maximum safety and minimum interference, connect the **GND** terminal to a good earth ground. A good earth ground is a metal stake driven into moist earth.

Notes

- When connecting the indoor FM antenna, firmly insert its connector into the **FM ANT** terminal.
- If you need an outdoor FM antenna to improve FM reception quality, either 300-ohm feeder or coaxial cable may be used. In locations troubled by electrical interference, coaxial cable is preferable.



ADJUSTMENTS BEFORE USING THIS UNIT

SELECTING THE OUTPUT MODES

This unit provides you the following five functions to determine the method of distributing output signals to speakers suitable for your audio system. When speaker connections have all been completed, select the proper setting for each function to make the best use of your speaker system. (See “ADJUSTMENTS IN THE ‘SET MENU’ MODE” on page 44.)

1. CNTR (CENTER SPEAKER) **2. REAR (REAR SPEAKERS)** **3. MAIN (MAIN SPEAKERS)**
4. BASS (LFE/BASS OUT) **5. M.LVL (MAIN LEVEL)**

DESCRIPTION OF EACH FUNCTION

CNTR (CENTER SPEAKER)

Choices: LARGE/SMALL/NONE
Preset position: LARGE

LARGE: Select this position when your center speaker is approximately the same size as the main speakers.

SMALL: Select this position when you use a center speaker that is smaller than the main speakers.
In this position, low bass signals (below 90 Hz) on the center channel are output from the main speakers (or the **SUBWOOFER OUTPUT** terminal if the SMALL position is selected for “MAIN” and the SW position is selected for “BASS”).

NONE: Select this position when you do not have a center speaker. The center channel sound will be output from the left and right main speakers.

REAR (REAR SPEAKERS)

Choices: LARGE/SMALL
Preset position: LARGE

LARGE: Select this position if your rear speakers have high ability for bass reproduction, or a subwoofer is connected to the rear speaker in parallel.
In this position, full-range signals are output from the rear speakers.

SMALL: Select this position if your rear speakers do not have high ability for bass reproduction.
In this position, low bass signals (below 90 Hz) on the rear channels are output from the **SUBWOOFER OUTPUT** terminal (or the main speakers if the MAIN position is selected for “BASS”).

MAIN (MAIN SPEAKERS)

Choices: LARGE/SMALL
Preset position: LARGE

LARGE: Select this position if your main speakers have high ability for bass reproduction.
In this position, full-range signals present on the main channels are output from the main speakers.

SMALL: Select this position if your main speakers do not have high ability for bass reproduction. However, if your system does not include a subwoofer, do not select this position.
In this position, low bass signals (below 90 Hz) on the main channels are output from the **SUBWOOFER OUTPUT** terminal if the SW or BOTH position is selected for “BASS”.

BASS (LFE/BASS OUT)

Choices: SW/MAIN/BOTH
Preset position: SW

MAIN: Select this position if your system does not include a subwoofer.
In this position, full-range signals present on the main channels, signals from the LFE channel and other low bass signals that are selected for “CNTR” to “MAIN” to be distributed from other channels are output from the main speakers.

SW/BOTH:
Select either the SW or BOTH position if your system includes a subwoofer.
In either position, signals on the LFE channel and other low bass signals that are selected for “CNTR” to “MAIN” to be distributed from other channels are output from the **SUBWOOFER OUTPUT** terminal.
When the LARGE position is selected for “MAIN”, in the SW position, no signal is distributed from the main channels to the **SUBWOOFER OUTPUT** terminal; however, in the BOTH position, low bass signals from the main channels are output to both the main speakers and the **SUBWOOFER OUTPUT** terminal.

M.LVL (MAIN LEVEL)

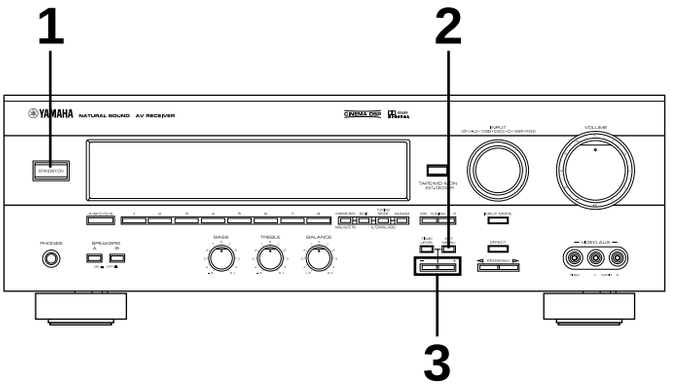
Choices: NRML (NORMAL)/–10 dB
Preset position: NRML (NORMAL)

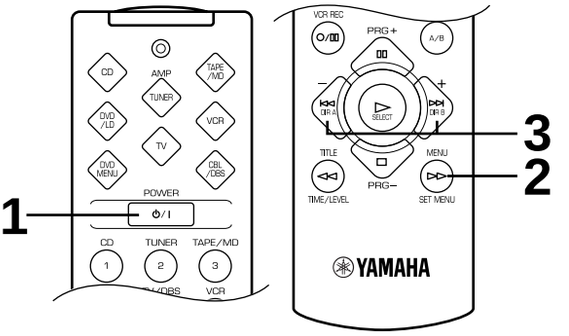
NRML (NORMAL):
Normally select this position.

–10 dB: Select this position if the sound output from the main speakers is too loud and cannot be balanced with the sound output from the center and rear speakers.
In this position, the sound output from the main speakers is attenuated.

ADJUSTING METHOD

Adjustments should be made while watching the information on this unit's display.

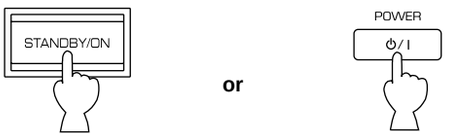




When adjusting with the remote control transmitter, press **AMP<TUNER>** on the component selector on the remote control transmitter.

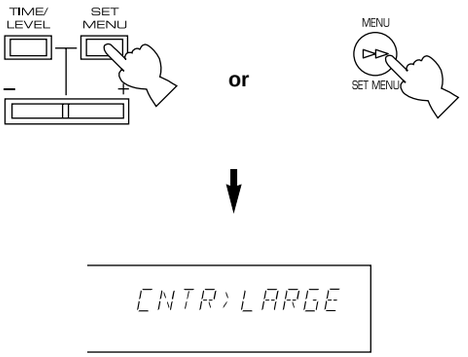
1 Turn the power on.

Front panel **Remote control**



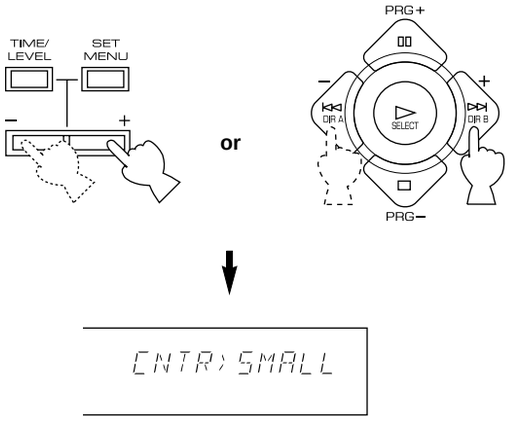
2 Press **SET MENU** once or more to select the function "CNTR" on the display.

Front panel **Remote control**



3 Press **+** or **–** once or more to select the setting you want.

Front panel **Remote control**

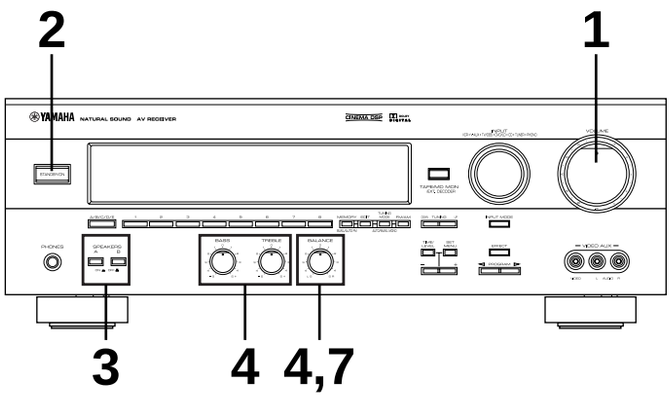


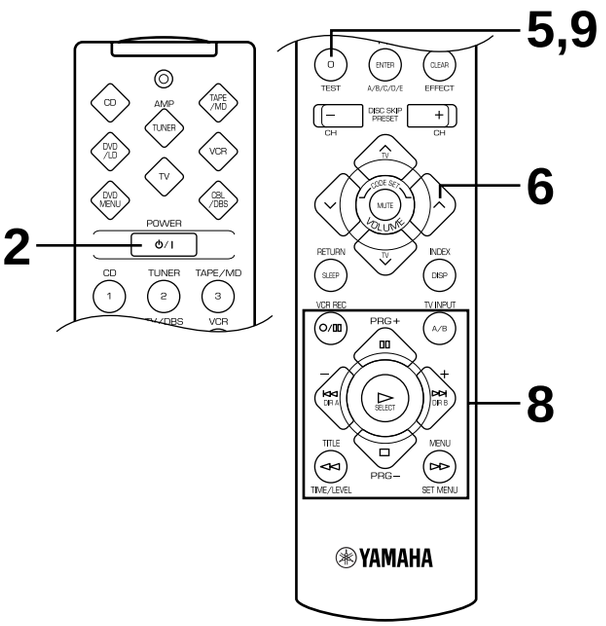
4 Repeat steps 2 and 3 to change the setting for "REAR", "MAIN", "BASS" and/or "M.LVL" in the same way.

SPEAKER BALANCE ADJUSTMENT

This procedure lets you adjust the sound output level balance between the main, center and rear speakers by using the built-in test tone generator. When this adjustment is performed, the sound output level heard at the listening position will be the same from each speaker. This is important for the best performance of the digital sound field processor, the Dolby Digital decoder and the Dolby Pro Logic Surround decoder.

The adjustment of each speaker output level should be done at your listening position with the remote control transmitter. After completing the adjustment of the output level for each speaker, use VOLUME (∧ ∨) on the remote control transmitter at your listening position to check if the adjustments are satisfactory.

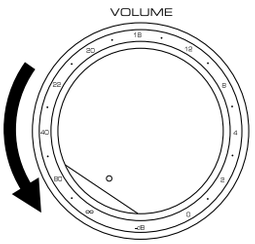




Press **AMP<TUNER>** on the component selector on the remote control transmitter.

1 Set **VOLUME** to the "∞" position.

Front panel



2 Turn the power on.

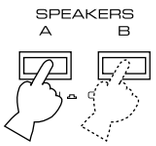
Front panel

or

Remote control

3 Select the main speakers to be used.

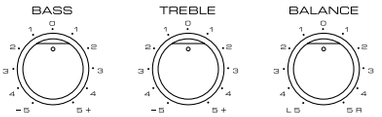
Front panel



* If you use two main speaker systems, press both **A** and **B**.

4 Set **BASS**, **TREBLE** and **BALANCE** to the “0” position.

Front panel

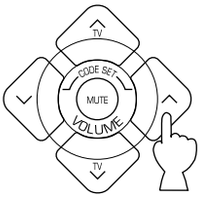


5 Press **TEST** so that “TEST LEFT” appears on the display.

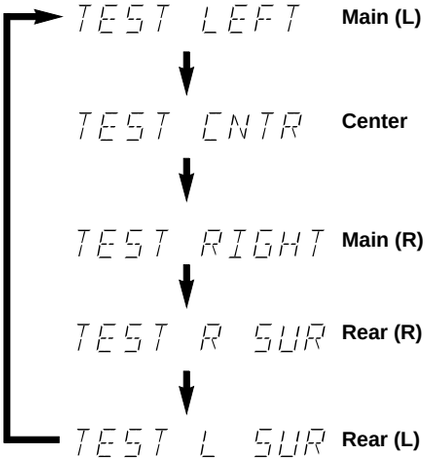
Remote control

6 Turn up the volume.

Remote control



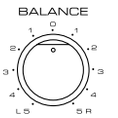
You will hear a test tone (like pink noise) from each speaker for about two seconds in following order: left main speaker, center speaker, right main speaker, right rear speaker and left rear speaker. The display changes as shown below.



* If the function “CNTR” in the SET MENU mode is set to the NONE position, you will hear the center channel test tone from the left and right main speakers.

7 Adjust **BALANCE** so that the sound output level of the left main speaker and the right main speaker is the same.

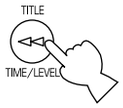
Front panel



8 Adjust the sound output levels of the center speaker and the rear speakers so that they become almost the same as that of the main speakers.

Press **TIME/LEVEL** once or more to select the speaker to be adjusted so that “CENTER”, “R SUR.”, “L SUR.” or “SWFR” appears on the display.

Remote control

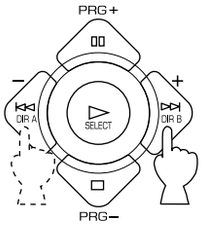


* You cannot adjust the delay time while the test tone is sounding even if “DELAY” appears on the display after pressing **TIME/LEVEL** once or more.

Adjust the level.

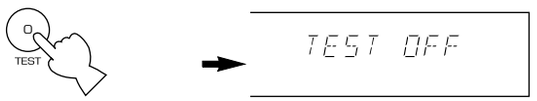
* Pressing **+** raises and **–** lowers the level.
* While adjusting, the test tone is fixed on the selected speaker.

Remote control



9 Press **TEST** again to stop the test tone.

Remote control

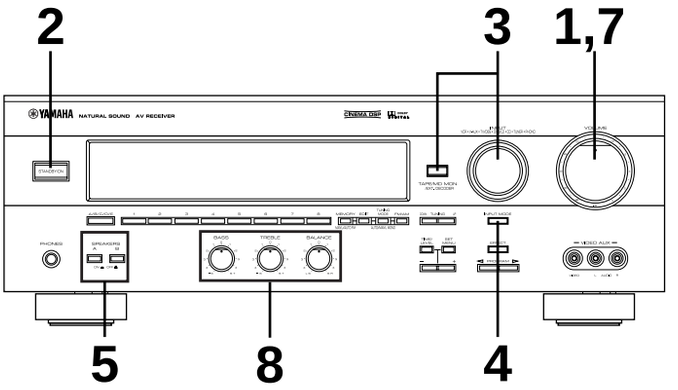


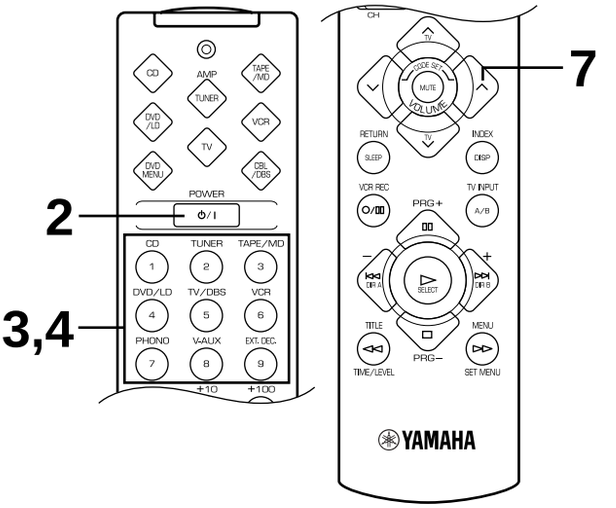
Notes

- Once you have completed these adjustments, you can only adjust the overall sound level of your audio system by using **VOLUME** (or **VOLUME** (∧ ∨) on the remote control transmitter).
- If you use external power amplifiers, you may also use their volume controls to achieve the proper balance.
- If the function “CNTR” in the SET MENU mode is set to the NONE position, the sound output level of the center speaker cannot be adjusted in step 8. The center sound is automatically output from the left and right main speakers.
- If there is insufficient sound output from the center and rear speakers, you may decrease the main speaker output level by setting “M.LVL” to “–10 dB”.

BASIC OPERATIONS

TO PLAY A SOURCE



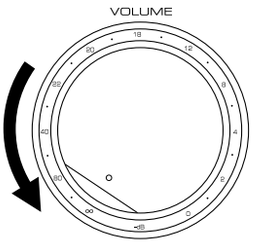


When using the remote control transmitter

- Press **AMP<TUNER>** on the component selector.
- When controlling an audio/visual component (tape deck, MD recorder, CD player, DVD/LD player, etc.), press the button on the component selector, **TAPE/MD**, **CD**, **DVD/LD**, etc., for the component you want to control. (See "SETUP CODES" on page 53.)

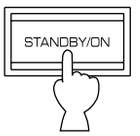
1 Set **VOLUME** to the "∞" position.

Front panel



2 Turn the power on.

Front panel

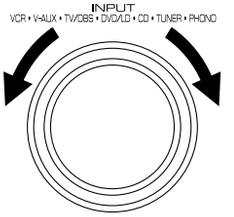


or

Remote control

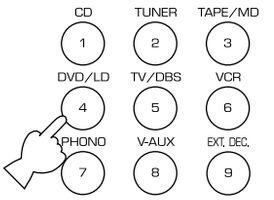
3 Select the desired program source by using **INPUT**. (Turn on the TV/monitor for video sources.)

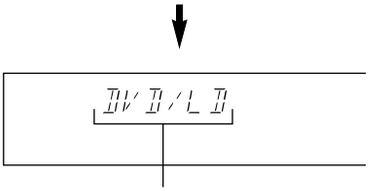
Front panel



or

Remote control



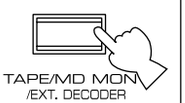


The name of the selected program source will appear on the display.

To play a tape or an MD

Press **TAPE/MD MON / EXT. DECODER** on the front panel or **TAPE/MD** on the remote control transmitter so that the "TAPE/MD MON" indicator lights up on the display.

Front panel



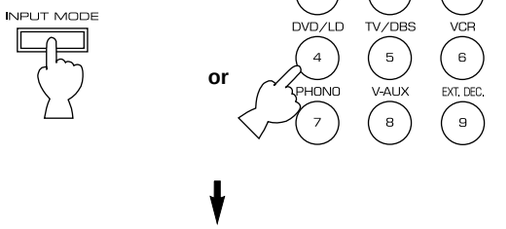
To use a decoder connected to the EXTERNAL DECODER INPUT terminals

Press **TAPE/MD MON / EXT. DECODER** once or more on the front panel or **EXT. DEC.** on the remote control transmitter so that "EXT. DECDR" appears on the display.

4 For a DVD/LD or TV/DBS source, the current input mode is also shown.

* To change the input mode for the DVD/LD or TV/DBS source, press **INPUT MODE** (or the button that you have pressed to select the program source in step 3 on the remote control transmitter) once or more until the desired input mode (AUTO or ANALOG) is shown on the display. (See page 30 for details on switching the input mode.)

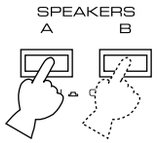
Front panel **Remote control**



Input mode

5 Select the main speakers to be used.

Front panel

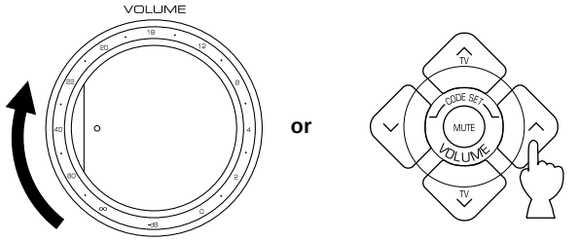


* If you use two main speaker systems, press both **A** and **B**.

6 Play the source. (See page 32 for detailed information on tuning.)

7 Adjust the volume to the desired output level.

Front panel **Remote control**



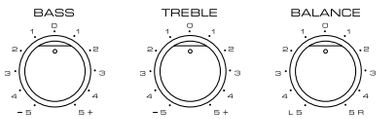
8 If desired, adjust **BASS**, **TREBLE**, **BALANCE**, etc. and use the digital sound field processor (see page 38).

BASS: Turn this control clockwise to increase (or counterclockwise to decrease) the low-frequency response.

TREBLE: Turn this control clockwise to increase (or counterclockwise to decrease) the high-frequency response.

BALANCE: Adjust the balance of the output volume from the left and right speakers to compensate for sound imbalance caused by the speaker location or listening room conditions.

Front panel



* These controls are only effective for the sound from the main speakers.

When you have finished using this unit

Press **STANDBY/ON** on the front panel again or **POWER** on the remote control transmitter to set this unit to the standby mode.

Notes on using INPUT

- The audio source selected by **INPUT** will not be played if the “TAPE/MD MON” indicator lights up or if “EXT. DECDR” is displayed.
- If you select **INPUT** for a video source without canceling the selection of **TAPE/MD MON / EXT. DECODER** on the front panel (or **TAPE/MD** or **EXT. DEC.** on the remote control transmitter), the play back result will be a video image from the video source and the sound from the audio source selected by **TAPE/MD MON / EXT. DECODER** on the front panel (or **TAPE/MD** or **EXT. DEC.** on the remote control transmitter).
- Once you start playing a video source, the video image will not be interrupted even if **INPUT** for an audio source is selected.
- When you select a program source by using **INPUT**, the DSP program (or no DSP program) that was being used when the same program source was selected the last time, will be automatically recalled.

Switching the input mode (for DVD/LD and TV/DBS)

This unit allows you to switch the input mode only for those sources connected to the DVD/LD and TV/DBS input terminals (on the rear panel of this unit) that input two or three types of signal.

The following two input modes are provided:

AUTO **For a source connected to the DVD/LD input terminals**

This mode is automatically selected when you turn on the power to this unit. In this mode, the input signal is automatically selected in the following order of priority:

1. Digital input signal from the **COAXIAL** terminal
2. Digital input signal from the **OPTICAL** terminal
3. Analog input signal

For a source connected to the TV/DBS input terminals

This mode is selected when you turn on the power to this unit if the AUTO position is selected for “INPUT” in the SET MENU mode. (See page 45 for details.) In this mode, the input signal is automatically selected in the following order of priority:

1. Digital input signal from the **OPTICAL** terminal
2. Analog input signal

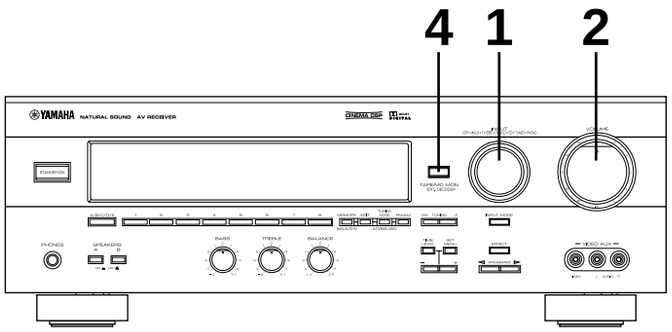
ANALOG

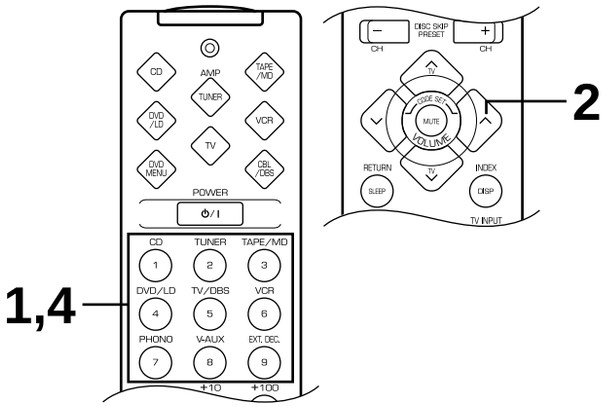
In this mode, only an analog input signal is selected, even if a digital signal is input at the same time. Select this mode when you want to use the analog input signal instead of the digital input signal.

Notes on input mode selection

- To play back a source that is Dolby Digital-decoded, set the input mode to AUTO.
- For the TV/DBS source only, the input mode selected for “INPUT” in the SET MENU mode is effective when you turn on the power to this unit.
- When you want to enjoy a source which has normal 2-channel signals with a Dolby Pro Logic Surround program, select the ANALOG mode.
- In the AUTO mode, there may be a case, depending on the LD player or DVD player, that when you search for a source encoded with Dolby Digital during play and then play is restored, the sound output is interrupted for a moment because the digital input signal is selected again.

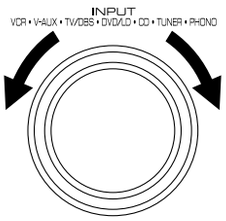
TO RECORD A SOURCE ON TAPE OR MD





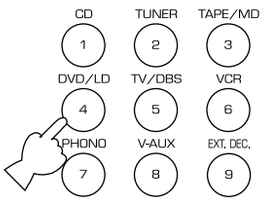
1 Select the source to be recorded.

Front panel



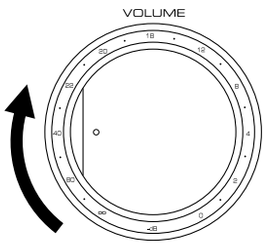
or

Remote control



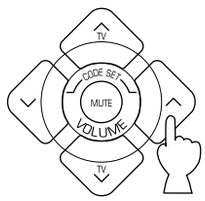
2 Play the source and then turn up the volume to confirm the program source. (See page 32 for detailed information on tuning.)

Front panel



or

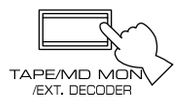
Remote control



3 Begin recording on the tape deck, MD recorder or VCR connected to this unit.

4 When a tape deck or MD recorder is being used for recording, you can monitor the sounds being recorded by pressing **TAPE/MD MON / EXT. DECODER** on the front panel or **TAPE/MD** on the remote control transmitter so that the “TAPE/MD MON” indicator lights up on the display.

Front panel



or

Remote control

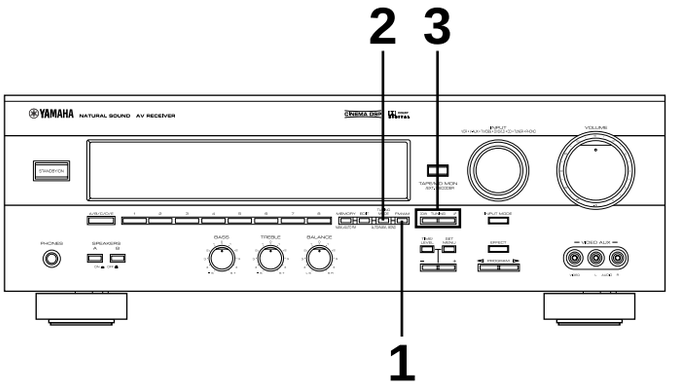
Notes

- The settings of DSP and **VOLUME**, **BASS**, **TREBLE** and **BALANCE** have no effect on the material being recorded.
- A source that is connected to this unit only through the digital terminals cannot be recorded by a tape deck, MD recorder or VCR connected to this unit.
- Please check the copyright laws in your country to record from records, compact discs, radio, etc. Recording of copyright material may infringe copyright laws.

If you use a video source that has scrambled or encoded signals to prevent it from being dubbed, there may be a case that the picture itself will be affected by those signals.

TUNING OPERATIONS

Set **INPUT** on the front panel to the TUNER position. When using the remote control transmitter, press **AMP<TUNER>** on the component selector and then press **TUNER** on the input selector.
Normally, if station signals are strong and there is no interference, quick automatic-search tuning (AUTOMATIC TUNING) is possible. However, if the signal from the station you want to select is weak, you must tune in to it manually (MANUAL TUNING).



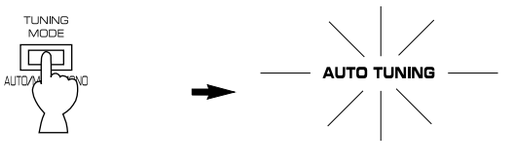
AUTOMATIC TUNING

1 Select the reception band (FM or AM) and confirm it on the display.

Front panel

2 Press **TUNING MODE** so that the “AUTO TUNING” indicator lights up on the display.

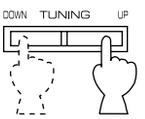
Front panel



Lights up

3 To tune in to a higher frequency, press the UP side of **TUNING** once.
To tune in to a lower frequency, press the DOWN side of **TUNING** once.

Front panel

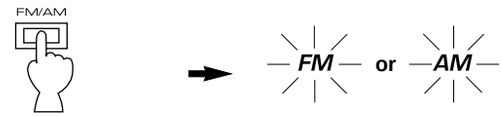


* If the station where the tuning search stops is not the desired one, press once more.
* If the tuning search does not stop at the desired station (because the signal from the station is weak), take the manual tuning procedure.

MANUAL TUNING

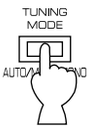
1 Select the reception band (FM or AM) and confirm it on the display.

Front panel



2 Press **TUNING MODE**.

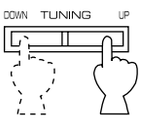
Front panel



Confirm that the “AUTO TUNING” indicator goes off.

3 Tune in manually to the desired station.

Front panel

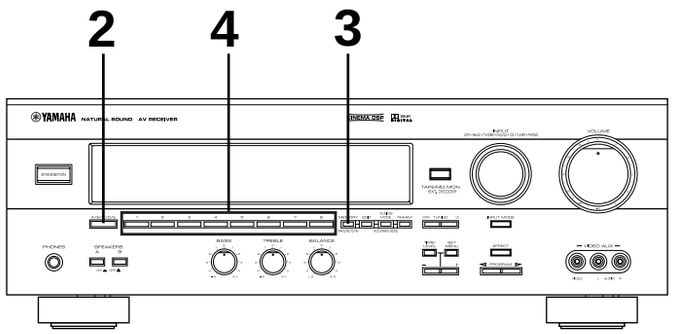


* To continue the tuning search, press and hold the button.

Note
If you tune in manually to an FM station, it will be automatically received in monaural mode to increase the signal quality.

MANUAL PRESET TUNING

This unit can store station frequencies to be selected by tuning. With this function, you can recall any desired station simply by selecting the preset station number with which it was stored. Up to 40 stations (8 stations x 5 groups) can be stored.

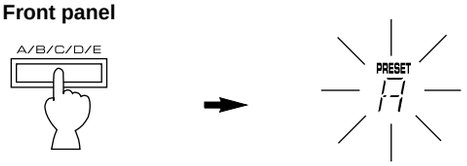


To store stations

1 Tune in to the desired station.
(See the previous page for the tuning procedure.)

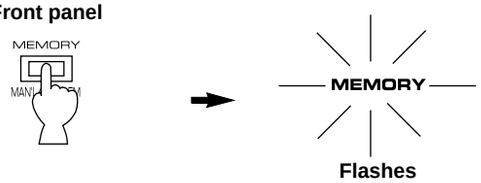
2 Press **A/B/C/D/E** once or more to select the desired group (A to E) of preset stations and confirm it on the display.

Front panel



3 Press **MEMORY** so that the “MEMORY” indicator flashes for about five seconds.

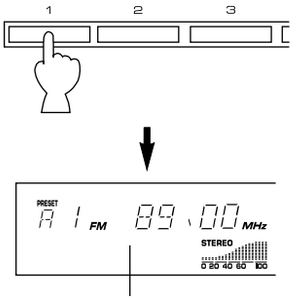
Front panel



Flashes

4 Select the preset station number with which you want to store the station before the “MEMORY” indicator goes off from the display.

Front panel



The displayed station has been stored as A1.

* In the same way, store other stations as A2, A3 ... A8.
* You can store more stations as preset station numbers in other groups in the same way by selecting another group in step 2.